HEAVY METALS SUMMIT
DETOX DEMYSTIFIED

Biophysics of Heavy Metal Detox
Guest: Dr. Dietrich Klinghardt

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Dr. Schaffner: Hi, everyone, I'm Dr. Christine Schaffner. Thank you for joining me for the Heavy Metals Summit. Together with Dr. Dietrich Klinghardt and Wendy Myers, we've assembled the world's top health experts to talk to you about the dangers of heavy metals, how we accumulate them, the importance of detox, and what you can do now to restore and protect your health.

I co-founded Sophia Health Institute with Dr. Dietrich Klinghardt outside of Seattle, Washington. Our clinic specializes in treating the real root causes of why people are sick today. Together, we hope the information in the summit will help you get your life back to one that is healthy, pain free, and full of energy.

Dr. Dietrich Klinghardt is the founder of the Sophia Health Institute in Woodinville, Washington. Internationally known for his successful treatment of chronic pain and illness, Dr. Klinghardt combines nonsurgical orthopedic medicine with immunology, endocrinology, toxicology, neurotherapy, hypnotherapy, and energy psychology. Since the 1970s, Dr. Klinghardt has contributed significantly to the understanding of metal toxicity and its connection with chronic infections, illness, and pain. He's considered an authority on the subject and has been instrumental in advancing various

fields within biological medicine, non-invasive pain management, injection techniques for pain in orthopedic dysfunction, anti-aging medicine, toxicology, neurodevelopmental disorders, energy psychology, biological dentistry, and others.

He has also developed autonomic response testing, a comprehensive diagnostic system that has helped many practitioners to become accomplished holistic physicians.

Welcome, Dr. Klinghardt. I'm so honored to interview you and it's a really fun treat getting to pick your brain this evening.

Dr. Klinghardt: Thank you, Christine.

Dr. Schaffner: Well, I know a lot of our patients and our audience would really love to hear your story and how did you really become interested in this whole huge topic about heavy metals.

Dr. Klinghardt: Yeah. So, of course, like many things, it started with my own experience that in my early teens I had some amalgam fillings placed and I immediately noticed that something in my brain had changed. Before then, I was considered to be a genius and kind of a gifted child. And afterwards, I realized I was developing extreme shyness, I was losing my confidence, I was easily feeling stressed. And I, very clearly, put it in context with that.

And then, when I was 23, I started working on my doctoral thesis and, in the context of that, I had to take care of a number of young people with autoimmune disease. And one of the things that I came up with simply counted the number of mercury amalgam fillings that they had in their mouth and simply compared it with what was published and what the average was for that age group. And realized that this group, mostly they were women with scleroderma and lupus, had more than twice the number of amalgam fillings in their mouth than the normal population that did not have autoimmune disease. And so, that was for me the beginning.

And so when I was about 24, I had all my amalgam fillings replaced with gold and the result was that six weeks later I went into full kidney failure, which then took me about 16 years to recover from. And in the course, I had to learn how—now, the amalgams were removed all the wrong way. I swallowed a large part of it. There was no rubber dam. There was no suction. That was a young dentist who was a friend who did not know his left from his right hand.

But I lost pretty much 20 years of my life due to that. And in the course I learned everything that was at the time known, we're talking like now the mid

to late 70s. And I apprenticed in a significant way with a famous German toxicologist, Max Daunderer, who introduced me to the work with injecting DMPS, which really saved my life at the time and still today has become an important tool.

Now, the interesting thing in that journey was, when I was toxic with the amalgam, when it was still in my mouth, I was asymptomatic for certain things but there was a number of symptoms that later on in life I related to Lyme disease. So my Lyme disease, which I contracted when I was about 11 or 12, coincided with the placement of the amalgam fillings, but I've had quite significant symptoms that were enmeshed with mercury symptoms. And interesting was that a large subset of symptoms disappeared when I had the gold placed in.

And just to roll it forward, so today we realized that gold is a fantastic treatment for Lyme disease in different forms. And I'm suspecting also in biblical times Jesus was brought gold by the wise men, that already then it was known that gold has a significant antimicrobial effect that we are using today in our practice. And we know that mercury from these amalgam fillings certainly has a synergistic effect with the symptoms of Lyme disease or will make Lyme much more symptomatic. I've stated other things in earlier lectures but this is what we know now to be true.

So, that was my early beginnings. And then being in contact with different researchers—I would like to say some things here to Vera Stejskal. Vera was a professor of immune toxicology who developed the MELISA test, which I will talk about later. And Vera died a few weeks ago of cancer. And so, I just want to—she developed wonderful work around the heavy metal issue at the Karolinska Institute and was one of my mentors. I just wanted to take the opportunity to say thank you to her and good bye in this way.

Dr. Schaffner: Absolutely. And I think the information that we're sharing through this summit is really—she had a large influence on the work that we're talking about. So absolutely, I love that we're honoring through this message.

So, Dr. Klinghardt, you just talked about a lot. And here we are in 2017 and you've taught all of the doctors here to always do a thorough dental history and we still see the same themes in all of our patients. And so, I'd love for you to just maybe share, since a big part of your personal journey in what we see with our patients is this whole dental component of exposure, and so maybe just a quick understanding of why do we even have to deal with this with our patients and a little bit of your perspective on the whole how dental materials really can influence people's health.

Dr. Klinghardt: Yeah. Let's just look at the science for a moment. So, the amalgam was introduced by two French brothers in the mid 1800s. And immediately the so-called first amalgam were started, where physicians noticed there were a lot of neurological problems in people where amalgam fillings were placed. The resistance was squished and then, in the early part of the last century, the American Dental Association got the patent on amalgam and became a beneficiary and dispensing amalgam fillings.

Since then, the science has been very much repressed until the late or mid 80s when the professor of chemistry in Kentucky, Boyd Haley, took up the battle and published a number of beautiful papers showing that the mercury in the amalgam filling—about half the weight of the amalgam filling is mercury—first of all, evaporates. Over seven years, about half the mercury escapes the filling and 80% of the escaped mercury stay in the body. And he tracked a way how the mercury travels in the body. As a gas, it passes through all the membranes. And only when the mercury that has evaporated gets inside a neuron, a brain cell, there's an enzyme in there called catalase that knocks two electrons off the mercury. And with that, in that state, the mercury is firmly bound to the proteins inside the cell and has an estimated half-life of 32 years in the brain.

And rolling it forward, more published in the 80s said the mercury sprinkles that all of us who ever had amalgam has in our brain become a perfect antenna for the cellphone radiation, for concentrating microwave in to the brain. And since the mercury cannot escape, basically, it is as if having your brain in a microwave oven 24/7 when exposed to microwave. So, there's a synergistic effect between the elecromagnetic radiation that we're all exposed to now and residues of mercury.

And then rolling it even further forward, and this is something we discovered in our work here at the Sophia Health Institute, is that the body compartments where mercury is accumulated—and I should include tin and copper in this, which is also part of the amalgam fillings—those body compartments cannot be surveyed by the immune system properly, that cells of the immune system themselves get sick when they get in the neighborhood of mercury and shy away from it. And so, those body compartments become the feeding ground, the growth medium for the growth of microbes. The names are all well know to anyone who listens. So, we're talking about Borrelia burgdorferi. We talk about mycoplasma. We talk very, very about the herpes viruses.

Daunderer already published that the herpes viruses like Epstein-Barr, herpes type 6, some of the viruses we link to chronic fatigue don't have feet or arms.

They don't have flagella like a tail that they can wiggle that moves them around. Viruses are depending on metals. So, just to make that simple to understand, our nerves are the electric wires in our system. And forget all the myelin and all the other principles but the nerves need to have the high content of conductive metals iron, copper, aluminum, mercury in order to conduct electric impulses.

And so viruses have an intelligence built-in. And they know that when, for example, a neuron doesn't have enough mercury, so it doesn't enough copper or doesn't have enough zinc in it to function, the neuron will draw in lead and mercury and cadmium to substitute for that because the neuron functions better with toxic metals than with no metals at all. And so, what the viruses do, they attach themselves in the body to free-floating metals that are floating around knowing that eventually the metals will be drawn into the nervous system and that's where the neurotropic viruses end up. Viruses cannot move on their own there.

Now, there are other ways how get they there. They can infect macrophages and other cells and then the macrophages can carry viruses inadvertently into the brain. But there is this important connection. And so, we found in most of our patients who come to us with a diagnosis, 'oh yeah I got EBV and my chronic is EBV'. Well, that may be well and right. But how did you conquer the EBV? We found that neither the medical drugs like Valcyte or Valtrex are effective for it nor are the alternative drugs offered by many people. But when you combine meaningful heavy metal detox with agents that pull mercury, lead, nickel, cadmium out of the central nervous system, passively coming out with all the viruses, then we can greatly the amount of viral load that people have in the brain that is, to a large degree, responsible for the modern brain illnesses, the Alzheimer-like illnesses.

We know there are studies that link Alzheimer's to aluminum toxicity. Other studies link Alzheimer's to mercury toxicity. And yet, other groups of studies link it to free iron deposits in the brain. And they're probably all right. But what is not really understood yet in the general public of medical doctors is that metal contamination is the carrier for viruses in our system. And to get viruses to come out we have to pull the metals out and do antiviral strategies.

Dr. Schaffner: Yeah, you've brought up a lot of good points in with the increase in Alzheimer's and a lot of mild cognitive impairment. And really, a lot of our patients and a lot of people who are listening are suffering from an increased incidence of neurological disease. So I think your input on it's not just mercury, it's not just aluminum, it's not the viruses but how do we treat this synergistically is so—obviously, I think people hearing this understand

they shouldn't have amalgams in their mouth. But how else are we getting exposed to these toxic metals, Dr. Klinghardt?

Dr. Klinghardt: So, it's important to know that our digestive tract is a pretty effective barrier to prevent absorption of toxic metals. So, for example, if you inhale mercury vapor, there is no barrier. The lung is not an effective barrier. So if you take the same mercury and swallow it, probably fairly little happens. But if you put it on a desk, like a blob of mercury, and sit on the desk and inhale the mercury, you will get severely toxic. By the way, everybody who's listening, because the keyboard of the laptop computer outgases some mercury, also some beryllium—very, very highly toxic other metal. And first of all, you absorb quite a bit through the skin off your hands but also you're inhaling it while you're sitting in front of your laptop. That's one of the things we see in increasing amounts in people.

But the main exposure to mercury is the waste bypassing the gut. So, first of all, placing it in the mouth is it; and then, of course injecting it. It was I and a number of colleagues we fought very, very threatening battles in the 90s to have mercury removed from the vaccines. And we had sort of like a false victory in 1999 when the American College of Pediatrics recommended to the vaccine industry to remove mercury. So what happened then is that mercury was reduced in the vaccines to an amount that the EPA declared it doesn't have to be declared anymore and replaced it with nanonized aluminum. And it turns out that the synergistic effect between this aluminum and mercury is absolutely devastating to the nervous system of many people, especially many children. And so by bypassing the gut, we got the highest levels of toxicity.

Now, we find people are allergic to nickel, that's now almost uniformly. So every time we touch a coin, you activate the nickel allergy. But nickel is not very dominant in the system. But mercury my friend, [inaudible] in Germany, calculated the average body burden of mercury and estimated that the average 40-year-old European needs to have between 120 and 150 injections of DMPS 250 mg each before you are at reasonable level of it. And so, that's a lot of injections.

But that's a little bit about the mercury. I'm, on purpose, not mentioning fish here. Because if you have a healthy gut the absorption from fish is minimal and also, especially if it's ocean fish, it's always paired with the absorption of significant amounts of selenium and amino acids from the flesh of the fish, which are the antidote for it. And there's recent studies on Alzheimer's disease that show when people eat fish twice a week, they have less Alzheimer's disease, i.e., the link to mercury, than people that do not eat fish. And so the

common agreement is that if your fish is reasonably clean with a little bit of mercury and that you're better off eating it than not eating it.

But in terms of the exposure, RhoGAM that's the Rhesus factor antidote that's injected in pregnant moms, the hepatitis B vaccine has it, the tetanus has it. So there is a number of sources of significant amount of mercury that bypasses the blood brain barrier. And that's definitely something we're pushing for should be improved, should be changed. I'm not against the vaccines. It's just the way it's applied.

There's a recent study that shows other contaminants that are not meant to be in the vaccines like lead and glyphosate and a whole list of toxic metals that aren't trace elements there. And by bypassing the skin and the gut barrier, we really have no defenses for it. So, that's a little bit on the mercury.

Now, maybe one more thing. The average air content of mercury has dramatically increased in the last 100 years. There are some measurements published, at least in the literature I'm aware of, where the average air content of mercury is up to 400 times higher now than it was 100 years ago. This is from digging up the earth in mines and by building streets and tunnels and roads, we released a lot of mercury that, at the average temperature on the planet, is a gas at room temperatures. It's not solid. It evaporates and stays in the air and hovers. And there's a study called *Health & Place* a magazine that shows in Texas the places that have the highest air content of mercury are also the places that have the highest rates of autism, so there is that link.

So, that's a bit on the mercury. But sources for aluminum have become much more prevalent. As you know, I am involved with a German toxicologist, Dr. Strobel, who uses apheresis. That's a blood washing procedure where all the contaminants of the blood are washed out and then can be examined. And he found out that the toxic metal that's over 94 times more prevalent than any other toxic metal in our system is aluminum.

And those numbers are going up. And the source of aluminum that he found is not from the dishes and from the deodorants but it is from the exhaust from airplanes that is either intentionally sprayed or unintentionally in the exhaust of airplanes.

By the way, the gasoline that airplanes use Jet 1 is still leaded. And whoever wonders where your source of lead is coming from, because I promise you lead is not a floating metal that stays up there. And actually, when you put it in the exhaust of a plane it comes down, and so is aluminum, and it maybe the major source of aluminum contamination. The numbers are going up every year of the amount of aluminum in the body. The interesting thing with

aluminum is that we do not have a decent lab test in the US where we can actually demonstrate that.

Now, whether it's an oversight or intentionally, I don't know. But we got our data from sending our American patients to Germany to have the apheresis done and then have the filtrate of their blood examined and that number 94 times more aluminum than mercury or lead or other metals, that's a significant number.

And aluminum is a very potent neurotoxin on its own. Mercury is a neurotoxin but also an immunotoxin. It's a digestive toxin. It's toxic to bone growth. In fact, there's not a single enzyme that has ever been found not to be blocked by mercury. So mercury is, by far, the most toxic metal that we have contact with. And unfortunately, it has a devastating synergistic effect with aluminum.

There's this beautiful study that Boyd Haley, when you put brain cells in a culture and expose them to the average amount of mercury that you get when you have six amalgam fillings. After 24 hours, 30% of the neurons are still alive, the rest has died. When you do aluminum alone, after 24 hours, 90% of the brain cells are still alive. But when you put them all together, both mercury and aluminum, after hours, all of them are dead. And then if you add in a tiny bit of testosterone, after an hour, everything is dead. And that's of course what we see with autism. The real damage done in the womb is if the child transplacentally gets both aluminum, mercury, and a little dose of Lyme disease, that's sort of the recipe for disaster.

So, bring to this forward now, to make it clinically relevant, of course, we spent years of trying to figure out how to diagnose this thing and I want to make some strong statements here. It's 2017 right now as we're speaking—even though this will be sent out 2018—2017, we do not have a single reliable lab test in the US or anywhere in the west that can predict correctly the iron levels of a patient. We have the iron binding capacity and we have the ferritin levels and we have serum iron. None of them are capable to really tell us what the body burden of iron is. That's an essential metal. We definitely do not have relevant lab tests that can tell us how much body burden of mercury somebody has.

Let me give you a little bit on the DMPS test. So, popular test we've been doing for 30 years is the DMPS Challenge Test where you inject 250 mg or 500 mg of DMPS and then collect the urine for 24 hours to see what comes out. Over 90% of the action off the DMPS when it's injected is in the blood vessels off the kidneys. And if the blood vessels of the kidneys and the nephrons of the kidneys, the filtrating cells, are loaded with mercury then you will get a high

yield in the urine and is going to show a high level of mercury. But it could be that the only mercury in this patient was what was left in the nephron and in the blood supply of the kidneys. It could be that there's absolutely no mercury in the muscles or in the bone or in the brain and vice versa.

If you have mercury stuck in the brain and the brain is inflamed from it, neurons are dying. But the body has not managed to filtrate that mercury out the brain because we talk a lot about the glymphatic system, the lymph drainage of the brain doesn't work because you got infected tonsils, you got teeth with root canals that are poisoning the lymphatics and they're blocked. And so you could have a huge arsenal of toxic metals in the brain and you do the DMPS shot, you're clearing out the kidneys and nothing is going to show. And you tell the patient, "Well, I'm sorry but you're not mercury toxic." That is a grave, grave mistake and naive wrongdoing on the side of physicians.

So, we do the challenge test but we know whatever comes out that was in the kidneys or proximal to kidneys. We have developed two beautiful test methods that we are practicing at the Sophia Health Institute. One is the direct resonance test that we modified after Dr. Omura published that. It's a muscle biofeedback test that we call autonomic response testing that can very, very accurately allow us to localize where in the body we have mercury and how much mercury is there or how much tin or how much beryllium or how much aluminum. That's one test.

And in the spring of 2017, I published what I think is a beautiful paper together with Marco Ruggiero where we are proposing a new method of localizing and diagnosing both infections and toxic depots in the body. We simply place ultrasound in certain parts of the brain, the neck, the lymphatic system, the kidney and we're opening up the blood brain barrier and we're opening up the lymphatic channels and we're allowing the body to squirt out the toxin that was localized in those places. We can also do that with the knee joint or the heart. And then we collect the urine for six hours and then test the metals in the urine and that can be very, very dramatic. And this is, for example, the first time we can show, not postmortem but premortem, that somebody a huge load of mercury in the heart.

We know from studies that were done in the late 80s and early 90s, an Italian researcher, a woman, she found in athletes and runners up to 40,000 times concentration of mercury in the heart of top athletes than in a normal population; up to 40,000 times. And now, however, really she could only do the studies postmortem when like Jackie Joyner-Kersee or other people after they died they could be reliably tested. And so, we developed a test. You simply put ultrasound on the heart in a certain way, certain frequency then

you collect the urine. You do the urine first. There's nothing in it then you do the ultrasound over the heart and then it comes out. But we have learned through testing forth and back that we can use our autonomic response testing very, very reliably to find out where in the body the depots are. It's called compartmentalized, so whether compartments are contaminated. And then we can, with the ART testing, determine what chelating or complexing agent is needed to remove the mercury or the aluminum from that area.

Dr. Schaffner: Well, you always give so much great information, Dr. Klinghardt. And I think this is a huge point. And I think there's a constant patient education piece that we are always doing because a lot of people who might not even come to see us will say, "Oh, I got metal detox" or "I had a metal challenge test and now, my mercury levels are down;" or "My lead levels are down;" or "My aluminum levels, you know, were never high."

And it's not about that but it's about why people are sick is because they have these toxic metals in their brain, in their cell membranes, in their tissues, in their heart. And I think it's been really eye opening. We've known this over the years through ART. But you've been doing this with the RK Protocol. At Sophia, we've been pleasantly surprised to see these tests verify what we've been seeing clinically for a long time. So I think this is a really important point for people.

And maybe to that—I mean you already touched on it, but maybe to that point too, I think this whole premise of detoxification is not like you're not going to get rid of this in three months. This is really a life-long process. But, really, for somebody who's chronically ill, how long do you say it takes to get a heavy metal load down in the body?

Dr. Klinghardt: Yeah. I'd like to start that in a left-handed way, George Carlo published a beautiful paper that shows that when you're exposed to microwave like the kind of microwave we're all exposed to 24/7, wherever you have cellphone connection you are exposed to microwave, that microwave inhibits only enzymes needed for detox. So if you're in a high electromagnetic environment, you cannot detox no matter what agent you use.

So, for me, it became in the last few years more clear, in order for us to succeed with getting the metal load down in a person, to get the immune system back going, to get their nervous system back on track, to get their digestive system back on track, first step, number one is our protective measures that we are teaching to our patients for the electrosmog. I'm not going to go in to that now in detail but it is an absolute must for that.

The second thing is people cannot detox when they do not have adequate bowel movements. And so, that's already like a glitch because very often patient doesn't have bowel movements because the neurons, the enteric nervous system of the gut is toxic with mercury, lead, aluminum, and other metals. And so, we can't get the metals out without the patient pooping properly. But we can't get the patient to poop unless the metals come out. And depending on where our patients are stuck with this, metal detox can take several years. And my philosophical opinion is that metal detox should be life-long strategy that we are following.

And I want to give just a few hints. So, for metal detox we have first of all the medical items. We have DMSA, DMPS, EDTA, calcium EDTA, sodium EDTA. We have D-Penicillamine. We have a very large arsenal of drugs. We've got glutathione. We got alpha lipoic acid. The trouble with all the commonly injected items is none of them, none, cross the blood brain barrier. So none of these items can remove the mercury where it is the most damaging and enters in the brain. Now, there is a series of biological items that had been published including curcumin, cilantro, chlorella. The interesting thing is that publication on cilantro shows it does cross the blood brain barrier the active compound and can mobilize metals in the brain.

Now, there is biophysics. I've published—not in a major medical journal but in a journal published in Germany—light mobilization. When we put a patient for an hour or so under a CFL, compact fluorescent light, that has mercury gas in it, the patient starts mobilizing mercury in the brain. And so, if you can combine that with meaningful complexing agents or chelating agents, you can actually use to decrease the mercury burden in tissues.

But my preferred method from biophysics right now is ionic footbath. A friend of mine in Germany did a beautiful study that was, I have to say, never published but shows that on day three, after a 30-minute footbath, the aluminum excretion in 20 patients went up over 600%. That is absolutely huge and actually astonishing. And she showed also by giving the patient oral cilantro, she could increase that number further. So, the ionic footbath is an absolute winner.

There are a lot of false websites up right now that poo-poo it. Obviously, somebody is not happy that this has come out. There are pulsating magnetic fields, electric fields, VMAT, and others. There's a colleague of us in Canada who uses static magnetic pads, Magnetico, and the patient just sleeps on a very strong magnetic field. And he shown that patients cannot sleep on this the first night because they start mobilizing metals and they need to be given a chelating or a complexing agent to capture the mobilized metals.

So I like to say that in order to get metals out of the system, we need a combination of biophysics and biochemistry. Now, there is Boyd Haley who has been, when he was tenured as a professor, has by far being the most advanced mercury researcher in the world and there's nobody ever even come close to him. And Professor Haley developed an oral compound that is absolutely astonishing. It is licensed to physicians to prescribe in Europe. It's called [inaudible]. It's a powder that needs to be dissolved with a tiny bit of DMSO and then ideally given with some olive oil or some fats like in a sort of almost ketogenic way and that is the first compound that crosses the blood brain barrier.

And we have results in Europe now with people healing from ALS, from Parkinson's disease, children with autism making huge gains on it very quickly within a few weeks, things that we have never seen before. So, I would dare to say heavy metal detox, by the time this production kind of comes out, we will have more experience with it. So far, only with our European patients in Europe I do practice there as well. But hopefully by then, we'll have approval here in the US, which now is [seeked]. It's in Phase III trial right now and it's going to be a revolution in our world.

Now, I also want to say here so everybody is clear on that. There are two groups of metal. There is the sulfhydryl-affinitive metals that means these are metals that are easily bound to SH groups in the body that's all our proteins. But they can also be removed by giving agents that have the sulfhydryl group. Glutathione is the most common one but it's a weak binder of metals. DMPS is the strongest of the ones commercially available. There is also zinc DTPA. And the EDTAs work in different ways by wrapping themselves around the metal without actually creating a bond, they're true chelating agents.

So, keep in mind in terms of language, EDTA is the only chelating agent; DMPS, DMSA, glutathione are the complexing agents. Let's kind of be a little clean on the terms that we're using. And the complexing agent binds mercury, lead, nickel, cadmium, barium, copper, some zinc, silver, gold, all the two valent metals get bound by it. But what they do not bind is iron and aluminum.

And we know from our work with cancer patients that there is an increasing body of literature that many cancers require aluminum as a growth medium. We know that Lyme spirochetes in the body require aluminum as a growth medium and, certainly, a lot of things would have to say with this in a different context. And we know that one of the markers of chronic inflammation is the displacement of oxidized iron in to tissues.

And so, the removal of iron and aluminum requires a different set of agents. Unfortunately, they respond to the same agent. We use a lot of Desferal that comes both in oral form and the injectible form. The oral form has too many side effects for us to use but the injectible form is wonderful to use. We're also using the ionic footbath to remove aluminum as I said before. Silica is the holy grail of removing aluminum. And iron, paradoxically, most people that have chronic inflammation that displays iron in the tissue at the same time iron deficient in the cells and in order move the iron back in to the cells, it needs to be reduced, which we do with the common IVs, IV vitamin C and other reducing agents, and then we tend to give an appropriate homeopathic form of iron to the patient. Frequently, it's ferrum phos but it can be other, it can be ferrum sulph and other homeopathic forms of iron that help to open the membranes and reverse the transport out of the inflamed area back in to the cells where it is.

So this is just a brief overview of a detox agent but, now, here comes the big thing is that the agents when you swallow them or you inject them, they have to actually find a way to the place where the metals are compartmentalized. And so, with our technique, ART, we have a drug uptake technique where we can tell, 'okay, [inaudible] or DMPS is not getting in to the brain, why is it not getting there?' And very often we find chronically infected tonsils, scars from past tonsil infections. We find root canal teeth, infections in the jawbone. These are all things that prevent the entry of good things into the brain and prevent the exit of bad things from the brain back into the body where it can detoxed.

And so, with the limits why, it is not being why do you recognize that Parkinson's disease is the end result of a combination of toxic metals in the brain and the secondary infections that build up there like Borrelia and others. And the reason why it's not widely recognized is because people try to do a bunch EDTA IVs or DMPS IVs and the patient has not improved. And therefore, it is then assumed, well, we did metal chelation and the patient didn't improve and, therefore, this condition is not linked to that. That's where the science stands right now.

Now, we've proven that all wrong by showing, okay, give somebody an EDTA IV with Parkinson's and you show half an hour into it, there's absolutely no EDTA arriving in the brain and then we may do some neurotherapy to the tonsils or put some infrared light on the broken jaw joint or we do a lymphatic drainage massage on the front of the neck and, bingo, now, the EDTA enters the brain and the patient's symptoms start to improve.

And so, with heavy metal detox, there is a lot of fine print that I would love to teach the whole world. The techniques are not that difficult. You know that I have a bunch of followers in the country but everybody needs to learn the basic neurotherapy techniques for that. Everybody needs to have an anatomical understanding of the lymph drainage of the brain and ways to enhance that with medication, some with biophysics like we use of ultrasound, FDA-registered instruments. There is manual lymph drainage massage. We recommend people elevate the head end of the bed by 15 cm that increases the lymph drainage of the brain, decompresses the tissue, and you get much more uptake of the chelating agents and complexing agents into the brain.

Dr. Schaffner: And you haven't mentioned melatonin yet, Dr. K. So the people can't get a hold of any these prescription type items, melatonin has been a really great tool to get in to the brain as well.

Dr. Klinghardt: Yeah. So, I talk a lot about a little bit poo-pooing all the glutathione injectors sort of that injected glutathione has never crossed the blood brain barrier. But the research is full that if you can increase melatonin in the brain, it helps the brain to be resistant against parasites, against viruses, against fungi, against Lyme spirochetes; and, at the same time, it facilitates the exit of everything toxic in the brain, including articles on aluminum, lead, mercury, cadmium. It's all in the literature that melatonin can get it out.

So we use liposomal melatonin. I use BioPure and it's a fantastic tool to increase the yield, to increase the movement of metals from the brain. However, the melatonin always should be combined with a complexing agent that then grab the mobilized metals and take them out of the brain the rest of the way.

Dr. Schaffner: And I think you brought a lot of great knowledge to our audience in that, I think, people really need patience and also perseverance. With metal detox, if something might not be going right or if there is an aggravation rather than giving up, saying 'okay, we know what other support could be utilized'. How many times do we just simply say binders and coffee enemas to help get people through this? It's definitely one of the most rewarding, I think, parts of our therapy to really detoxify the brain and the body from toxic metals.

And I think, circling back to some of your original symptoms that you said that you really notice you had, mercury toxicity was kind of those depression, those kind of your lack of zest as you would say, or those kind of barrier to living your life fully. And how many people do we know these days who are not

able to really live their fully because they're exposed to these really man-made compounds? So I think that's a really important part of our work as well.

Dr. Klinghardt: Yeah. Let me say some things. So, right now, the modern thing in our medicine is everybody has Lyme disease or everybody has chronic fatigue and viruses. And if you can bring to the table a powerful method, accurate method of metal detox, then these chronic infections become almost irrelevant. They become smaller items than they seem now. And people do so much better if you do a Lyme disease treatment while also addressing the metals. People with chronic fatigue do so much better taking the metals out along with some antiviral strategies.

I like to maybe just one more glitch. When you give a metal detox agent, let's say you do a shot from DMPS, it clears the nephrons for a few hours. And then what the nephrons do, they send a signal to every cell in the body, 'hey, guys, it's time. You can shoot down some more mercury. I'm free'. And then what happens, you get the DMPS shot. It only works for less than an hour in the system then it's out. And then six hours later, eight hours later, 16 hours later, there's an avalanche of more metals coming down and the patient may get, actually, total shutdown, overwhelm of the kidneys. So, those things need to be known, they need to be anticipated.

And what we do and you mentioned it, we give people a large amount of binders. That means when that second wave comes, the whole gut is lined with either zeolite or chlorella or [inaudible]. And that sucks out of the bloodstream, now, the second wave that comes down in to the gut and you're simply pooping the metals out. And so, there are many different ways of doing that but I just wanted to make that clear that these second waves have been responsible for those disasters in the heavy metal detox area.

Our recently also deceased friend, Andy Cutler, used to anticipate that by giving a detox agent either DMPS or DMSA every six hours meticulously; so anticipating that second wave. And so we do it differently. We have our patient on constant doses of binders and just step the number that they take up. They may get recommendations after DMPS shot of taking 60 or 80 or 100 tablets of chlorella about 250 mg each. There's absolutely no harm to that. It's like eating a steak in terms of the protein content. And that will capture that second wave. And rather than pushing more toxic stuff to the kidney, it gets pushed through the gut which is much safer.

Dr. Schaffner: Yeah, such a great point. Because, again, we want our patients to do this safely and productively and that's why you're sharing this information right now Dr. Klinghardt and I know that you have a lot more to share as well. But I think this is a huge concept where people get stuck.

So, with that being said any other pearls that you want to leave our audience with? Any other tips or tricks that you learned over the years of getting metals out of people?

Dr. Klinghardt: Yeah. First of all, I think it's important that the people hear this from me one more time. There are two things. It's the lifespan, which is decreasing the last couple of years according to the statistics, and there is the health span, the number of healthy years that we have. And in an average woman, the lifespan right now is 83 years in North America when you subtract some of the murders and other things. And 20 years ago, the health span was 10 years less than that. So 10 years ago, she spends the last 10 years in ill health. Now, just within a few years, it's over 20 years that she spends in ill health. So from 63 to 83, she spends in ill health, statistically, that's published.

And so the causes of that, we know, it's the sum total of exposure to pesticides, insecticides, heavy metals, the electrosmog, and maybe the mental stress of our time. And so, we need to see where can we effectively intervene and reverse that so that we can live out a full life and full abundant health. And I found over the years that decreasing the body burden off metals, especially aluminum, lead, and mercury, if you can get that down, there is a point when we have been effective where all the vitality comes back.

And I would like to say this that most of the enzymes that we need to detox glyphosate, to detox atrazine, and all the other chemical PBDEs and so forth, all these enzymes are already blocked by the mercury and the lead and the aluminum in our system. And by actually unblocking that, by removing the metals, we can now, on our own, detox the other 20,000 or 30,000 chemicals in our system. Or in other words, mercury toxicity and aluminum toxicity have taken the number one priority place. If you can't handle that, a lot of other things will fall in place.

If you can detox mercury and aluminum, Lyme disease becomes a small, treatable issue. The viruses become a small, treatable issue. And with that we have access to like 80%, 90% of all the current health problems and chronic illness. And so I believe, and you know that I live that every day, that getting the metal load down should be a strategy for every practitioner who deals with chronic illness and there should be a strategy employed early on. The problem is that the lab testing—I may want to sort of repeat at the end of this talk a little bit more what's available with lab testing.

So, we have a couple of things. We have the challenge test that I mentioned. We have the urine porphyrin test that's developed here by James Woods in Seattle. Porphyrins are enzymes that get upregulated when we are toxic. And

so the porphyrins give us a window of about six months what has been active in the system, what the body engages with, and that's an excellent indirect test for aluminum, for lead, and for mercury. It's really just those three things that you can say things about. Hair analysis, well, the hair analysis shows only what the body successfully excretes, and that is valuable information, but it does not tell us what the body does not excrete, what it cannot excrete.

Then we have the OligoScan, that's a light technology by putting infrared light through the palm of the hand. It takes proton resonance with metals in there and it can quite accurately determine the level of good minerals in your palm and toxic minerals. It's a good test. It has not been validated in the US, so you can't go to court with it, but it's a test that's coming, a testing technology.

Then, there is the test I mentioned, the apheresis by washing the blood, filtering out the dirt that's in it, and analyzing what's in there that you could good test. And then of course the primary test that I think every physician should learn is the direct resonance either by Dr. Omura in New York to take his courses or to take my course in autonomic response testing. It's a little different but it looks at the same phenomenon.

Those are the tests that we routinely employ. There is the MELISA test that I mentioned in the beginning. It looks for delayed allergies. MELISA stands for memory lymphocyte immunostimulation assay. Basically, they take the patient's lymphocytes and expose them to tiny amounts of mercury, lead, aluminum and see what the lymphocytes do. If they wildly start replicating themselves, making babies, that means the lymphocytes know this toxin. They have been exposed to it, they remember it, and they're dreading it, and they're increasing the number of the army. It's an excellent test. It doesn't show everything. But if it shows a metal allergy, it's a very strong indicator for the body burden of a particular metal.

I'm sure there are other tests that I forgot right but that's handful. We use all of them to approximate in a patient how bad they are but my love stays with the ART testing. It doesn't cost anything and has been the best predictor of these phenomena.

Dr. Schaffner: Absolutely. And I think all of these tests are really important but we can also—I think, it's safe to say just based on our clinical experience, if you have any chronic illness, you should definitely consider strategies for heavy metal detoxification to get your health back so we can keep simple, right?

Dr. Klinghardt: Yup.

Dr. Schaffner: Well, Dr. Klinghardt, I know you've shared a tremendous amount of information that has a lot of people thinking when they listen to this and this is, of course, invaluable and I really just thank you for your wisdom this evening and all that you do.

Dr. Klinghardt: Thanks, Christine. It's a joy working with you.

Dr. Schaffner: Thank you, again, for joining me for the Heavy Metals Summit. You can take this amazing talk home with you by purchasing the summit. Just click on one of the banners on this page. And don't forget to check out the talks from the rest of our renowned speakers. I'm Dr. Christine Schaffner and I hope that you and your family experience abundant health. You can learn more about my work at drchristineschaffner.com. Remember, detox can literally help you get your life back. See you again soon.

